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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,973	06/16/2005	Guido Gentner	2002P06169WOUS	6167
87133	7590	02/25/2010	EXAMINER	
Dickinson Wright, PLLC 1875 Eye Street, NW Suite 1200 Washington, DC 20006			WANG, QUAN ZHEN	
			ART UNIT	PAPER NUMBER
			2613	
			NOTIFICATION DATE	DELIVERY MODE
			02/25/2010	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/510,973	<b>Applicant(s)</b> GENTNER ET AL.	
	<b>Examiner</b> QUAN-ZHEN WANG	<b>Art Unit</b> 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 18-40 is/are pending in the application.
- 4a) Of the above claim(s) 25 and 29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18-24, 26-28 and 30-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 18-24, 26-28, and 30-40 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 18 recites the limitation of "wherein the amplification of the check-back signal decoupled from the transmission system is linear and **not limited** in amplitude". However, the amplitude of a signal naturally has a definite value which is within certain limit. No one can generate a signal with not limited in amplitude.

Claims 23, 26, 27, and 40 recite the similar limitation(s).

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 18-24, 26-28, and 30-40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 2613

Claim 18 recites the limitation of “concentrating a constant proportion of an output in a defined frequency range of the check-back signal in a narrow-band spectral range”. However, it is not clear what is technically considered “a narrow-band spectral range”.

Claim 18 recites the limitation of “wherein the amplification of the check-back signal decoupled from the transmission system is linear and **not limited** in amplitude”. However, the claim language renders the claim indefinite since it fails to clearly define what is considered as applicant’s invention.

Claims 23, 26, 27, and 40 recite the similar limitation(s).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 18-21, 26, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thanhaeuser (DE 10046104A1, provided in IDS).

Regarding claims 18, 26, and 40, as the yare understood in view of the above 112 problems, Thanhaeuser discloses a method and apparatus for detecting a check-back signal in an optical transmission system for optical signals (fig. 1), comprising:

concentrating a constant proportion of an output in a defined frequency range of the check-back signal in a narrow-band spectral range;

Art Unit: 2613

feeding the check-back signal into the transmission system at the sending end;  
decoupling the check-back signal after a section of the transmission system;

modulating, amplifying and filtering the decoupled check-back signal to isolate  
the narrow band spectral range of the check-back signal; and

determining the output of the isolated narrow-band spectral range for the  
detection of the check-back signal.

Thanhaeuser differs from the claimed invention in that Thanhaeuser does not specifically disclose that the amplification of the check-back signal decoupled from the transmission system is linear in amplitude. However, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to improve the method and apparatus of Thanhaeuser by employing narrowing the spectral and limiting the amplification in linear range. The motivation would have been to improve the performance of the method and system of Thanhaeuser.

Regarding claim 19, as it is understood in view of the above 112 problem, the check-back signal of Thanhaeuser is encoded signal.

Regarding claim 20, Thanhaeuser differs from the claimed invention in that Thanhaeuser does not specifically disclose that the signal is CMI or RZ encoded. However, Examiner takes Official Notice that CMI or RZ are well known modulation format in the art. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate these modulations in order to encode signals in an optical carrier.

Regarding claim 21, Thanhaeuser further discloses an opto-electric modulation and the amplification of the decoupled signal is provided at least for the data bandwidth of the check-back signal (fig. 1).

7. Claims 22-24, 27-28, and 30-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thanhaeuser (DE 10046104A1, provided in IDS) in view of Ohta (United States Patent Application Publication US 2003/0072064 A1).

Regarding claims 22, 30-33, Thanhaeuser has been discussed above in regard with claims 18 and 40. Thanhaeuser differs from the claimed invention in that Thanhaeuser does not specifically disclose an additional regeneration of the check-back signal is provided. However, it is well known in the art to provide an additional check-back signal. For example, Ohta discloses to provide an additional check-back signal (FIG. 1). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate addition of regenerated check-back signal, as disclosed by Ohta, in the system of Thanhaeuser. The motivation would have been to provide further control of the transmission system (Ohta: paragraphs 0038-0039).

Regarding claims 23-24 and 27-28, as they are understood in view of the above 112 problems, Thanhaeuser has been discussed above in regard with claims 18 and 40. Thanhaeuser differs from the claimed invention in that Thanhaeuser does not specifically disclose a pump source arranged in the section of the transmission system. However, it is well known in the art to arrange a pump source in the section of the

Art Unit: 2613

transmission system. For example, Ohta discloses to arrange a pump source in the section of the transmission system (fig. 1). Ohta further discloses that the pump source is controlled by a check back signal (fig. 1, SV). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate the pump source of Ohta in the system of Thanhhaeuser and configure the pumps to make the necessary amplification of the optical signals is switched off when the system is in operation or when the system is not in operation it remains switched off and wherein if no line discontinuity is determined, the pump source is switched on. The motivation would have been to control the signal intensity in the transmission line.

Regarding claims 34-35, Thanhhaeuser further discloses that the components can be integrated in one decoupling line of a monitoring channel with check-back signal used for network management. Ohta further discloses that the regenerator is connected in series to the decoding module (Ohta: fig.1).

Regarding claims 36 and 37, Thanhhaeuser and Ohta differ from the claimed invention in that Thanhhaeuser and Ohta do not specifically disclose that the narrow-band spectral range has 50% of the total output of the check-back signal issuing from the encoding module. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to set the narrow-band spectral range to be 50% of the total output of the check-back signal issuing from the encoding module, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re A11er*, 105 USPQ 233.

Regarding claims 38 and 29, the output level of the modified system of Thanhaeuser and Ohta can be detected or determined when the pump source arranged in the optical waveguide whether said pump source is switched on or off.

### ***Response to Arguments***

8. Applicant's arguments filed on 12/18/2009 have been fully considered but they are not persuasive.

Because Applicant failed to clearly and specifically define what is considered "a narrow-band spectral range", the spectral range of Thanhaeuser reads the claimed limitation of "a narrow-band spectral range".

Because Applicant failed to specifically define what constitute "not limited in amplitude", the check-back signal of Thanhaeuser reads the claimed limitation. In addition, the amplitude of a signal naturally has a definite value which is within certain limit. No one can generate a signal with not limited in amplitude.

Applicant argues, "The instant claimed invention 'employs' use of an amplitude that is linear without amplitude restriction". However, firstly, it is unclear what it means by "an amplitude that is without amplitude restriction"; secondly the argued terminology is not reflected in the claims. Instead, the claims recite limitation of "wherein the amplification of the check-back signal decoupled from the transmission system is linear and **not limited** in amplitude". However, the amplitude of a signal naturally has a definite value which is within certain limit. No one can generate a signal with not limited in amplitude.



In view of the above discussions, the rejections of claims still stand.

***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to QUAN-ZHEN WANG whose telephone number is (571)272-3114. The examiner can normally be reached on 9:00 AM - 5:00 PM, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2613

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

2/21/2010

/Quan-Zhen Wang/

Primary Examiner, Art Unit 2613